# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377


Job No.: CTCE/BBMP/WNo.7/AP/CSR-05/046h/CEMENT/2016-17 Date: 24.05.2016

## TEST REPORT ON CEMENT

| | | |
|---|---|---|
| * CUSTOMER | : | **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| *AGENCY | : | **Mr. Akhilesh P,** #3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24. |
| *NAME OF THE WORK | : | Construction of Roads and Drains in Jakkur S C Colony in Ward No. 7, Byatarayanapura, BBMP, Bangalore. |
| REFERENCE | : | AEE/(KOD.SUB.DIV)/103/A/2016-17 Dated: 23.05.2016 |
| SAMPLE ID | : | Cement-Sample 2 |
| SAMPLE RECEIVED ON | : | 23.05.2016 |
| PERIOD OF TESTING | : | 23.05.2016 to 24.05.2016 |

The results of the tests conducted on the cement sample are as follows:

| Sl. No | Descriptions | Test Method as per IS | Test Result | Requirements as per IS: 8112-2013 |
|---|---|---|---|---|
| 1 | Standard Consistency | IS-4031 (Part -4) 1988(RA-2009) | 28.00 % | - |
| 2 | a) Initial Setting Time | IS-4031 (Part -5) 1988(RA-2009) | 160 Minutes | Not Less than 30 Minutes |
| | b) Final Setting Time | IS-4031 (Part -5) 1988(RA-2009) | 475Minutes | Not More than 600 Minutes |
| 3 | Soundness by Le Chartlier Method | IS-4031 (Part-3) 1988(RA-2009) | 1 mm | Not more than 10mm |

*Information is furnished by the Customer/Representative.

Note:

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⇒ The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

*********

VISHWANATH .C
Quality Manager

AE(NOT)

Assistant Executive Engineer
Kodigehalli Sub Division
Bruhat Bangalore Mahanagara Palike
Bangalore-560 092


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Job No.: CTCE/BBMP/WNo.7/AP/CSR-05/046h/SAND-Gradation/2016-17 : 24.05.2016

## TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. Akhilesh P,**
#3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24.

*** Name of Work** : Construction of Roads and Drains in Jakkur S C Colony in Ward No. 7, Byatarayanapura, BBMP, Bangalore.

**Reference** : AEE/(KOD.SUB.DIV)/103/A/2016-17 Dated: 23.05.2016

**Technical Reference** : IS : 2386 Part 1 - 1963 RA-2007

**Sample ID** : Fine Aggregates -Sample 2

**Sample Received on** : 23.05.2016

**Date of Testing** : 24.05.2016

Total Wt. of Aggregates in gms **1000**

| Is Sieve Size in mm | Cumulative Weight Passing in % | Spec.Limits as per IS 383-1970 (RA- 2007) | | | |
|---|---|---|---|---|---|
| | | Zone-I | Zone-II | Zone-III | Zone-IV |
| 10 | 100 | 100 | 100 | 100 | 100 |
| 4.75 | 93.50 | 90-100 | 90-100 | 90-100 | 95-100 |
| 2.36 | 79.50 | 60-95 | 75-100 | 85-100 | 95-100 |
| 1.18 | 54.00 | 30-70 | 55-90 | 75-100 | 90-100 |
| 600 Micron | 27.50 | 15-34 | 35-59 | 60-79 | 80-100 |
| 300 Micron | 16.00 | 5-20 | 8-30 | 12-40 | 15-50 |
| 150 Micron | 8.50 | 0-10 | 0-10 | 0-10 | 0-15 |

* Information is furnished by the Customer/Representative

**Remarks :** This sample is under Zone-I specific limits.

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*********

VISHWANATH .C
Quality Manager

Akhilesh. N.D
AE(KOD)


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T-2377


Job No.: CTCE/BBMP/WNo.7/AP/CSR-05/046h/AGG/GR/2016-17 : 24.05.2016

## TEST REPORT ON COARSE AGGREGATES

| | |
|---|---|
| * Customer | : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| * Agency | : **Mr. Akhilesh P,** #3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24. |
| * Name of Work | : Construction of Roads and Drains in Jakkur S C Colony in Ward No. 7, Byatarayanapura, BBMP, Bangalore. |
| Reference | : AEE/(KOD.SUB.DIV)/103/A/2016-17 Dated: 23.05.2016 |
| Technical Reference | : IS : 2386 Part 1 -1963 RA-2007 |
| Sample ID | : Coarse Aggregates (40mm) -Sample 2 |
| Sample Received on | : 23.05.2016 |
| Date of Testing | : 24.05.2016 |

Total Wt. of Aggregates in gms= **7000**

| Is Sieve Size in mm | Cumulative Weight Passing in % | Spec.Limits as per IS 383-1970 (RA- 2007) | |
|---|---|---|---|
| | | Graded | Single Sized |
| 80 | 100 | 100 | - |
| 63 | 100 | - | 100 |
| 40 | 97.36 | 95-100 | 85-100 |
| 20 | 36.54 | 30-70 | 0-20 |
| 10 | 15.74 | 10-35 | 0-5 |
| 4.75 | 3.51 | 0-5 | - |

* Information is furnished by the Customer/Representative

**Remarks :** This sample is under Graded specific limits.

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VISHWANATH .C
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# CIVIL-TECH CONSULTANTS AND ENGINEERS

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An ISO 9001:2008 Certified Company

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JAS-ANZ BSCIC ISO 9001 REGISTERED


Job No.: CTCE/BBMP/WNo.7/AP/STEEL/2016-17 24.05.2016

## TEST REPORT ON REINFORCEMENT STEEL

| | | |
|---|---|---|
| Customer | : | **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| Agency | : | **Mr. Akhilesh P,** #3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24. |
| Name of the Work | : | Construction of Roads and Drains in Jakkur S C Colony in Ward No. 7, Byatarayanapura, BBMP, Bangalore. |
| Reference | : | AEE/(KOD.SUB.DIV)/103/A/2016-17 Dated: 23.05.2016 |
| Date of Test | : | 24.05.2016 |
| Technical Reference | : | IS: 1786-2008 |

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress N/mm$^2$ | Tensile strength (Ultimate stress) N/mm$^2$ | Elongation percent gauge length | | |
| 1 | 8 | 0.40 | 510 | 552 | 13.00 | O.K | O.K |

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| Technical Reference | : | IS: 1786-2008 |

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress $N/mm^2$ | Tensile strength (Ultimate stress) $N/mm^2$ | Elongation percent gauge length | | |
| 1 | 10 | 0.62 | 512 | 557 | 13.35 | O.K | O.K |

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Job No.: CTCE/BBMP/WNo.7/AP/STEEL/2016-17 24.05.2016

## TEST REPORT ON REINFORCEMENT STEEL

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|---|---|---|
| Customer | : | **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
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| Technical Reference | : | IS: 1786-2008 |

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress N/mm² | Tensile strength (Ultimate stress) N/mm² | Elongation percent gauge length | | |
| 1 | 12 | 0.89 | 516 | 557 | 13.50 | O.K | O.K |

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| Agency | : | **Mr. Akhilesh P,** #3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24. |
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| Technical Reference | : | IS: 1786-2008 |

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress N/mm² | Tensile strength (Ultimate stress) N/mm² | Elongation percent gauge length | | |
| 1 | 16 | 1.58 | 521 | 562 | 13.65 | O.K | O.K |

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Job No.: CTCE/BBMP/WNo.7/AP/STEEL/2016-17 24.05.2016

## TEST REPORT ON REINFORCEMENT STEEL

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|---|---|---|
| Customer | : | **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| Agency | : | **Mr. Akhilesh P,** #3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24. |
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| Technical Reference | : | IS: 1786-2008 |

| Sl. No | Nominal size (dia) (mm) | Mass per metre (Kg/mtr) | TENSILE STRENGTH | | | Bend Test | Rebend Test |
|---|---|---|---|---|---|---|---|
| | | | 0.20% proof stress/Yield stress N/mm² | Tensile strength (Ultimate stress) N/mm² | Elongation percent gauge length | | |
| 1 | 16 | 1.58 | 521 | 562 | 13.65 | O.K | O.K |

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Asstt. E.E (QC)

# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377


Job No.: CTCE/BBMP/WNo.7/AP/CSR-05/046h/CUBE/2016-17 23.06.2016

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

| | |
|---|---|
| * **Customer** | : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| * **Agency** | : **Mr. Akhilesh P,** #3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24. |
| * **Name of the work** | : Construction of Roads and Drains in Jakkur S C Colony in Ward No. 7, Byatarayanapura, BBMP, Bangalore. |
| * **Reference** | : AEE/(KOD.SUB.DIV)/103/A/2016-17 Dated: 23.05.2016 |
| * **Sample ID** | : RCC Drain Concrete |
| **Size of cubes** | : 150mmx150mmx150mm |
| **Cross Sectional Area** | : 22500 $mm^2$ |
| **Technical Reference** | : IS: 516-1959 (Reaffirmed 2008) |
| * **Grade of Concrete** | : $M_{20}$ |
| **Compressive Strength as on** | : $28^{th}$ day |
| **Sample Received on** | : 23.06.2016 |

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 26.05.2016 | 23.06.2016 | 8.145 | 505.4 | 22.46 |
| 2 | 26.05.2016 | 23.06.2016 | 8.269 | 508.9 | 22.62 |
| 3 | 26.05.2016 | 23.06.2016 | 8.374 | 486.9 | 21.64 |

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T-2377


Job No.: CTCE/BBMP/WNo.7/AP/CSR-05/046h/CUBE/2016-17 24.06.2016

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. Akhilesh P,**
#3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24.

*** Name of the work** : Construction of Roads and Drains in Jakkur S C Colony in Ward No. 7, Byatarayanapura, BBMP, Bangalore.

*** Reference** : AEE/(KOD.SUB.DIV)/103/A/2016-17 Dated: 23.05.2016

*** Sample ID** : RCC Drain Concrete

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{20}$

**Compressive Strength as on** : $28^{th}$ day

**Sample Received on** : 24.06.2016

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 27.05.2016 | 24.06.2016 | 8.178 | 506.9 | 22.53 |
| 2 | 27.05.2016 | 24.06.2016 | 8.289 | 509.9 | 22.66 |
| 3 | 27.05.2016 | 24.06.2016 | 8.356 | 486.6 | 21.62 |

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Quality Manager

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T-2377


Job No.: CTCE/BBMP/WNo.7/AP/CSR-05/046h/CUBE/2016-17 27.06.2016

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

| | |
|---|---|
| * Customer | : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| * Agency | : **Mr. Akhilesh P,** #3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24. |
| * Name of the work | : Construction of Roads and Drains in Jakkur S C Colony in Ward No. 7, Byatarayanapura, BBMP, Bangalore. |
| * Reference | : AEE/(KOD.SUB.DIV)/103/A/2016-17 Dated: 23.05.2016 |
| * Sample ID | : Drain Covering Slab Concrete |
| Size of cubes | : 150mmx150mmx150mm |
| Cross Sectional Area | : 22500 $mm^2$ |
| Technical Reference | : IS: 516-1959 (Reaffirmed 2008) |
| * Grade of Concrete | : $M_{20}$ |
| Compressive Strength as on | : $28^{th}$ day |
| Sample Received on | : 27.06.2016 |

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 30.05.2016 | 27.06.2016 | 8.085 | 492.6 | 21.89 |
| 2 | 30.05.2016 | 27.06.2016 | 8.156 | 488.5 | 21.71 |
| 3 | 30.05.2016 | 27.06.2016 | 8.265 | 507.1 | 22.54 |

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T-2377


Job No.: CTCE/BBMP/WNo.7/AP/CSR-05/046h/CUBE/2016-17 28.06.2016

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

| | |
|---|---|
| * Customer | : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| * Agency | : **Mr. Akhilesh P,** #3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24. |
| * Name of the work | : Construction of Roads and Drains in Jakkur S C Colony in Ward No. 7, Byatarayanapura, BBMP, Bangalore. |
| * Reference | : AEE/(KOD.SUB.DIV)/103/A/2016-17 Dated: 23.05.2016 |
| * Sample ID | : Culvert Deck Slab Concrete |
| Size of cubes | : 150mmx150mmx150mm |
| Cross Sectional Area | : 22500 $mm^2$ |
| Technical Reference | : IS: 516-1959 (Reaffirmed 2008) |
| * Grade of Concrete | : $M_{20}$ |
| Compressive Strength as on | : $28^{th}$ day |
| Sample Received on | : 28.06.2016 |

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 31.05.2016 | 28.06.2016 | 8.123 | 508.2 | 22.59 |
| 2 | 31.05.2016 | 28.06.2016 | 8.285 | 513.4 | 22.82 |
| 3 | 31.05.2016 | 28.06.2016 | 8.374 | 523.6 | 23.27 |

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3. Any Query regarding the report must be reported within 30 days from the date of testing.

*********

VISHWANATH .C
Quality Manager

AE (UD)


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# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377


Job No.: CTCE/BBMP/WNo.7/AP/CSR-05/046h/CUBE/2016-17 28.06.2016

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

| | |
|---|---|
| * Customer | : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| * Agency | : **Mr. Akhilesh P,** #3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24. |
| * Name of the work | : Construction of Roads and Drains in Jakkur S C Colony in Ward No. 7, Byatarayanapura, BBMP, Bangalore. |
| * Reference | : AEE/(KOD.SUB.DIV)/103/A/2016-17 Dated: 23.05.2016 |
| * Sample ID | : Road Concrete |
| Size of cubes | : 150mmx150mmx150mm |
| Cross Sectional Area | : 22500 $mm^2$ |
| Technical Reference | : IS: 516-1959 (Reaffirmed 2008) |
| * Grade of Concrete | : $M_{20}$ |
| Compressive Strength as on | : $28^{th}$ day |
| Sample Received on | : 28.06.2016 |

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 31.05.2016 | 28.06.2016 | 8.156 | 495.6 | 22.02 |
| 2 | 31.05.2016 | 28.06.2016 | 8.263 | 501.2 | 22.28 |
| 3 | 31.05.2016 | 28.06.2016 | 8.396 | 487.4 | 21.66 |

* Information is furnished by the Customer/Representative

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|---|---|
| * Customer | : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore. |
| * Agency | : **Mr. Akhilesh P,** #3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24. |
| * Name of the work | : Construction of Roads and Drains in Jakkur S C Colony in Ward No. 7, Byatarayanapura, BBMP, Bangalore. |
| * Reference | : AEE/(KOD.SUB.DIV)/103/A/2016-17 Dated: 23.05.2016 |
| * Sample ID | : Road Concrete |
| Size of cubes | : 150mmx150mmx150mm |
| Cross Sectional Area | : 22500 $mm^2$ |
| Technical Reference | : IS: 516-1959 (Reaffirmed 2008) |
| * Grade of Concrete | : $M_{20}$ |
| Compressive Strength as on | : $28^{th}$ day |
| Sample Received on | : 28.06.2016 |

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 31.05.2016 | 28.06.2016 | 8.256 | 510.2 | 22.68 |
| 2 | 31.05.2016 | 28.06.2016 | 8.344 | 514.8 | 22.88 |
| 3 | 31.05.2016 | 28.06.2016 | 8.489 | 521.4 | 23.17 |

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T-2377


Job No.: CTCE/BBMP/WNo.7/AP/CSR-05/046h/CUBE/2016-17

30.06.2016

## TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

*** Agency** : **Mr. Akhilesh P,**
#3, Santrupthi, Vinayaka Layout (Old Venkategowda Layout), Hebbal Kempapura, Bangalore-24.

*** Name of the work** : Construction of Roads and Drains in Jakkur S C Colony in Ward No. 7, Byatarayanapura, BBMP, Bangalore.

*** Reference** : AEE/(KOD.SUB.DIV)/103/A/2016-17 Dated: 23.05.2016

*** Sample ID** : Road Concrete

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{20}$

**Compressive Strength as on** : $28^{th}$ day

**Sample Received on** : 30.06.2016

| Sl.No. | Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 02.06.2016 | 30.06.2016 | 8.045 | 496.6 | 22.07 |
| 2 | 02.06.2016 | 30.06.2016 | 8.115 | 508.5 | 22.60 |
| 3 | 02.06.2016 | 30.06.2016 | 8.274 | 512.5 | 22.78 |

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